

CLAIMS

1. A harmful substance decomposer including a catalyst supported on a silk burned product, which is formed by burning and carbonizing a silk material at temperature of 1,000 °C or below.
2. The harmful substance decomposer according to claim 1, wherein said silk burned product includes 18-35 wt% of nitrogen elements.
3. The harmful substance decomposer according to claim 1 or 2, wherein said silk burned product is activation-treated so as to form many micro fine holes in a surface thereof.
4. The harmful substance decomposer according to one of claims 1-3, wherein said catalyst is platinum.
5. The harmful substance decomposer according to one of claims 1-3, wherein said catalyst is phthalocyanine.
6. The harmful substance decomposer according to one of claims 1-3, wherein said catalyst is titanium oxide.
7. The harmful substance decomposer according to claim 4, wherein electrodes are provided to both ends.
8. A method of producing a harmful substance decomposer,
comprising the steps of:
primary-burning with temperature rising rate of 100°C/hour or less until reaching a first temperature and maintaining the first temperature for several

hours;

secondary-burning with temperature rising rate of 100 °C/hour or less until reaching a second temperature, which is higher than the first temperature and which is 1,000 °C or below, and maintaining the second temperature for several hours;

cooling the material, which has been secondary-burned, until reaching the room temperature; and

supporting a catalyst on the material, which has been secondary-burned, wherein said steps are performed in an inert gas atmosphere.

9. The method according to claim 8, wherein the material, which has been primary-burned, is once cooled until reaching the room temperature, then the material is secondary-burned.

10. The method according to claim 8 or 9, wherein the catalyst is platinum, phthalocyanine or titanium oxide.

11. The method according to claim 8 or 9, wherein the temperature rising rate in the primary-burning step and the secondary-burning step is 50 °C/hour or less.

12. The method according to claim 7, 8 or 9, further comprising the step of exposing the material, which has been secondary-burned, to high-temperature steam as an activation treatment.